

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mark Wilson on 24 December 2009.
3. The application has been amended as follows:

Claims 1-14 (Cancelled)

Claim 15 (Currently Amended) A tamper-resistant memory device comprising:

a plurality of MRAM-cells; and
at least one security device coupled with said MRAM-cells, said security device including a magnetic source and a shielding layer;
wherein the shielding layer deviates magnetic field lines of ~~the magnet~~ said magnetic source[[,]] such that the plurality of MRAM-cells are unaffected by said magnetic field lines; and
further wherein tampering with said tamper-resistant memory device comprises at least a partial removal of said shielding layer which causes said magnetic field lines to ~~effect~~ destroy at least some of the data stored in the plurality of MRAM-cells, ~~when said memory device is subject to tampering.~~

DETAILED ACTION

4. The amendment of 17 September 2009 has been noted and made of record.
5. Claims 15-16 have been presented for examination.

6. Claims 1-14 have been cancelled as per the examiner's amendment above.

Allowable Subject Matter

7. Claims 15-20 are allowed.
8. The following is an examiner's statement of reasons for allowance:

The examiner was unable to find prior art that taught a security device for an MRAM that included both a magnetic source and a shielding layer, such that the magnetic source destroyed at least part of the data when the shielding layer was tampered with. The examiner was also unable to find any teaching, suggestion, or motivation that would render the above-limitation obvious. Therefore, claims 15-20 are novel and not obvious.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
11. The following patents are cited to further show the state of the art with respect to MRAM, such as:

United States Patent Application Publication No. 2009/0050992 A1 to Kools et al., which is cited to show shielding for MRAM.

United States Patent Application Publication No. 2005/0045998 A1 to Kools et al., which is cited to show shielding for an MRAM.

United States Patent Application Publication No. 2004/0032010 A1 to Kools et al., which is cited to show shielding for an MRAM.

United States Patent Application Publication No. 2006/0146597 A1 to Lenssen et al., which is cited to show a related, co-pending application.

United States Patent No. 6,650,564 B1 to Earl et al., which is cited to show erasing and writing to MRAM devices.

United States Patent No. 6,522,577 B1 to Earl et al., which is cited to show erasing and writing to MRAM devices.

United States Patent Application Publication No. 2005/0230788 A1 to Kato et al., which is cited to show a magnetic shield for magnetic memory.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian LaForgia whose telephone number is (571)272-3792. The examiner can normally be reached on Monday thru Thursday 7-5.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christian LaForgia/
Primary Examiner, Art Unit 2439

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